



North American Refractories Co.

A Member of The Didier Group

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02/02/92

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500 Halle Building
1228 Euclid Avenue
Cleveland, Ohio 44115-1809
216/621-5200

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NORTH AMERICAN REFRACTORIES PRODUCT SAFETY DATA SHEET

MANUFACTURER

NORTH AMERICAN REFRACTORIES

MSDS # 3066-50

Vendor:

Emergency Phone Number
East (814) 236-3890
West (415) 432-4741
Canada (416) 765-4404

MSDS prepared by:
NORTH AMERICAN REFRACTORIES
Technical Center (814) 234-7981

Date Issued: 02/02/92

Date Revised: 08/27/91

Product Type: Refractory Castable / Gun Material

Trade Name: DURAKAST 56ER

***** SECTION I - PRODUCT IDENTIFICATION *****

Chemical Name: Fireclay Castable
Chemical Family: Al₂O₃.SiO₂.CaO.Al₂O₃

***** SECTION II - CHEMICAL COMPOSITION *****

Hazardous Ingredients:	CAS Number:	PCT:
Crystalline Silica including:	N/A	less than 25%
Quartz	14808-60-7	
Cristobalite	14464-46-1	
Tridymite	15468-32-3	
Other Ingredients:	CAS Number:	PCT:
Alumina Silicate	1302-93-8	less than 75%
Hydrous Alumina Silicate	1302-87-0	less than 10%
Hydraulic Setting Cement	12042-68-1	less than 35%
Organic Fibers	9003-07-0	less than 1%
Amorphous Silica	7631-86-9	less than 10%

***** SECTION III - PHYSICAL DATA *****

Appearance and Odor: Tan, granular, dry mixture, odorless.

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216/621-5200******* SECTION IV - FIRE AND EXPLOSION HAZARD *******

Flammability: This product is non-flammable and will not support combustion.

******* SECTION V - HEALTH HAZARD *********Threshold Limit Value:**

For respirable dust containing crystalline silica:

OSHA :

ACGIH: Quartz.....0.1mg/m³

Cristobalite....0.05mg/m³

Tridymite.....0.05mg/m³

Effects of Overexposure:**CEMENT:**

Cement may cause irritation to skin and eyes. Low toxicity via inhalation route. Pulmonary fibrosis due to cement dust occurs rarely if at all. Cement may be an allergen in some people. Note: LD50 and LC50 is not available for "Cement"

CRYSTALLINE SILICA:

Chronic overexposure to dust containing respirable sized crystalline silica (quartz, cristobalite, and tridymite) can cause delayed lung injury (silicosis).

Points of attack: Respiratory system and lungs.

Route of entry: Inhalation.

Inhalation of dust containing crystalline silica may contribute to pre-existing pulmonary diseases such as asthma and lung disorders associated with the smoking of tobacco.

Some recent animal studies have caused the International Agency for Research on Cancer (IARC) to categorize crystalline silica as a 2A carcinogen. A 2A carcinogen is one which:

- (1) there is sufficient evidence for the carcinogenicity to experimental animals.
- (2) there is limited evidence of the carcinogenicity to humans.

Toxicity data:

Quartz: LCLo: 300ug/m³ / 10Y-I
inhalation human

Cristobalite: TCLo: 16 mppcf/8H/17.9Y-I
inhalation human

Tridymite: TCLo: 16 mppcf/8H/17.9Y-I
inhalation human

Note: LD50 and LC50 not available.

For more information on crystalline silica refer to:

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(1) IARC Monograph, Volume 42

(2) NIOSH Document No. 75-120

With the exception of:

Crystalline silica

No ingredient in this product is found on either the Federal OSHA, NTP, or IARC list of carcinogens.

Emergency and First Aid Data:

Eyes: Flush with water and get medical help.

Inhalation: Remove to fresh air.

Eyes: Flush with water for 15 minutes and get medical help.

***** SECTION VI - REACTIVITY DATA *****

Stability and Reactivity: This product is stable and non-reactive.

Hazardous Decomposition: Crystalline silica levels in used refractories may be higher or lower than as-shipped depending on service conditions. Hygiene monitoring must be done to insure the proper employee protection during tearout.

***** SECTION VII - SPILL AND LEAK PROCEDURES *****

Steps to be Taken in Case of a Spill:

Avoid generating dust exposure during cleanup.

Waste Disposal Method: Dispose of material according to local, state or federal regulations and as final used condition of the product dictates.

***** SECTION VIII - INDUSTRIAL HYGIENE INFORMATION *****

Ventilation: Local exhaust recommended to maintain exposures below TLV.

Respiratory Protection: NIOSH approved dust type for exposures above TLV.

Protective Gloves: Impervious gloves recommended.

Eye Protection: Recommended.

***** SECTION IX - SPECIAL PRECAUTIONS *****

Special Precautions: Avoid dust generation.

Precautionary Labeling: Product contains crystalline silica and hydraulic setting cement.

WARNING: Prolonged inhalation of product dust may cause delayed lung injury (silicosis).
Contact may cause irritation to eyes and skin.

***** SECTION X - SPECIAL INFORMATION *****

WARNING: Steam spalling may occur from improper drying, curing, and firing (heat-up).
Steam spalling of thick refractory sections can be explosive in character. Potential for serious



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injury exists from failure to follow the recommended schedule. This schedule is available from North American Refractories Co. For more information, contact your sales representative or call North American Refractories Co. 216-621-5200.